

IN THE CLAIMS

1. (currently amended) A computer-implemented method of assigning ~~weighting~~ weights ~~efficients~~ to measurements of a ~~succession~~ selection of stars, the measurements being acquired by a star sensor connected to a client device, in order to determine a spatial orientation, the method comprising the steps of giving higher or lower preference to refreshment, by at least one or both of the star sensor and its client device, of at least one or both of

(a) a ~~the~~ positions of the measurements with the highest weights and/or

(b) the stars on which these measurements are made, ~~by the star sensor and/or its client device,~~
so as to displace, within a frequency spectrum, a part of ~~the~~ a power of ~~the~~ an error associated with the ~~set of star measurements of the selection of stars. within the frequency spectrum.~~

2. (currently amended) The method according to claim 1, ~~characterised in that~~ wherein in ~~the~~ a calculation of the weights of the measurements in a current selection of stars, the ~~reinforcement higher or attenuation lower preference~~ takes place as a result of applying a distance weight

associated with each measurement in the current selection and

characteristic of an average distance between
~~firstly on the one hand the~~ said measurement and
~~secondly on the other hand the~~ measurements for the previous selections of stars and ~~the~~ other measurements in the current selection of stars.

3. (currently amended) The method according to claim 2, ~~characterised in that~~ wherein the distance weight associated with

~~each the current selection measurement in the current selection~~
is calculated as a weighted average of the ~~corresponding~~
distances, ~~each distance corresponding to the distance between~~
~~firstly on the one hand a first measurement corresponding~~
~~to the said measurement, in the current selection of stars and~~
~~secondly on the other hand a second measurement, each~~
~~second measurement being respectively the measurements for the~~
previous selections of stars ~~and or the other measurements in~~
the current selection.

4. (currently amended) The method according to claim 3,
~~characterised in that~~ wherein the distance weighting coefficient
associated with ~~the a~~ distance between
a first measurement in the current selection and
a second measurement in a previous selection of stars or
another measurement in the current selection of stars, includes
(a) a memory coefficient associated with the said second
measurement, and ~~or~~
(b) the weight of the second measurement if it the second
measurement belongs to a previous selection of stars, or a
temporary weight if it the second measurement belongs to the
current selection of stars.

5. (currently amended) The method according to claim 3,
~~characterised in that~~ wherein the distance weight is calculation
calculated by combining the
an angular distance between the first measurement two and
the second measurements, and
an identity distance that depends on the difference in
nature of the two stars for which the first measurement and the
second measurements are being made.

6. (currently amended) The method according to claim 4, ~~characterised in that~~ wherein the ~~a~~ memory coefficient Mem of a measurement m_i at time t is defined using the following formula:

$$\text{Mem}(m_i/t) = \mu \times \Pi^{-[t-T(m_i)]}, \text{ where}$$

- $T(m_k)$ is a validity date of a measurement m_k
- μ and Π are constants.

7. (currently amended) The method according to claim 2, ~~characterised in that~~ wherein a charge Cha is assigned to each star for which a measurement is made, the charge Cha summarising the weights assigned to the measurements made on the said star in the past, attenuated by ~~the passage of time~~.

8. (currently amended) The method according to claim 7, ~~characterised in that~~ wherein the charge Cha of ~~the~~ a star e_p is defined at an instant T by the following formula:

$$\text{Cha}(e_p, T) = \sum_{\substack{i=P+1 \\ E(m_i)=e_p}}^N [A(m_i) \times \text{Mem}(m_i/T)]$$

where $\text{Mem}(m_i/T)$ is ~~the~~ a memory coefficient of ~~the~~ a measurement m_i at time T , $E(m_i)$ is ~~the~~ a star on which the measurement m_i is made, and $A(m_i)$ is the weight of the measurement ~~weight~~ m_i .

9. (currently amended) The method according to claim 7, ~~characterised in that~~ wherein the charge Cha, associated with a star ~~to~~ for which a measurement in the current selection is ~~related~~ made, is updated before it is used in the calculation of the weight associated with ~~a~~ the said measurement, the update being made using a coefficient that depends on ~~the~~ a difference Δ between ~~the~~ a current date and ~~the~~ a last date of a previous update ~~date~~ for this the said charge Cha.

10. (currently amended) The method according to claim 9, ~~characterised in that~~ wherein the update of the charge Ch_a is made by multiplying the previous update of the charge Ch_a by a ~~the coefficient may be a factor and is in the form~~ Π^{-A} , where Π is a constant.

11. (currently amended) The method according to claim 9, ~~characterised in that~~ wherein the update of the charge Ch_a is made by adding a coefficient ~~$\rho \Delta$~~ where ρ is a constant, to the previous update of the charge Ch_a ~~the coefficient is additive and is in the form $\rho \Delta$ where ρ is a constant.~~

12. (currently amended) The method according to claim 7, ~~characterised in that~~ wherein, after calculating the weight associated with a measurement in the current selection, the charge Ch_a associated with the star for which this measurement was made, is updated.

13. (currently amended) The method according to claim 12, ~~characterised in that~~ wherein the update of the charge Ch_a is made by adding the weight associated with the measurement.

14. (currently amended) The method according to claim 12, ~~characterised in that~~ wherein a random function ~~Gaussian variable~~ is used in the calculation of the weights.

15. (currently amended) The method according to claim 2, ~~characterised in that~~ wherein the calculation of the distance weight is iterated with a temporary weight associated with ~~for~~ measurements in the current selection, the distance weight being used to calculate ~~a new~~ the temporary weight itself used to

calculate a new distance weight ~~and so on~~, the iterations being made until convergence towards a final distance weight.

16. (Cancelled) .

17. (currently amended) The method according to claim 1, ~~characterised in that~~ wherein giving higher preference to the refreshment rate of stars with a large high weight is increased made by increasing the a frequency of measurements of the star sensor and/or the client device.

18. (currently amended) The method according to claim 1, ~~characterised in that~~ wherein the a dispersion of the a complete new selection is used directly in the weights, using processing means related to the sensor and/or client device.

19. (currently amended) The method according to claim 18, ~~characterised in that~~ wherein the processing means related to the sensor and/or the client device comprise a neural network used to directly affect dispersion in the weights.

20. (cancelled)

21. (cancelled)

22. (New) The method according to claim 2, wherein a random uniform variable is used in the calculation of the weights.